REMARKS/ARGUMENTS

Claims 1, 3-10 and 12-17 are pending in the present application. Claims 1 and 10 have been amended by this Amendment.

Claim Rejections under 35 USC § 102 and 35 USC § 103

Claims 1, 3-5, 10 and 12-15 have been rejected under 35 USC § 102(e) as anticipated by Ho et al. (U.S. Pat. No. 6,950,397, hereinafter "Ho"). Claims 7-9 have been rejected under 35 USC § 103(a) as unpatentable over Ho in view of Immonen et al. (U.S. Pat. No. 7,010,305, hereinafter "Immonen"). Claims 6 and 16-17 have been rejected under 35 USC § 103(a) as unpatentable over Ho in view of Jouppi et al. (U.S. Pat. No. 7,031,718, hereinafter "Jouppi"). Applicants respectfully traverse these rejections.

Discussion of Example Embodiments

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

Applicants' disclosed embodiments are directed to a quality of service management method in a packet mode mobile communication network for a service to be executed by a subscriber in the network to which a data stream corresponds. Applicants' recited method includes determining a set of quality of service parameters that include at least one first quality of service parameter that corresponds to a subscriber priority and at least one second quality of service parameter that is related to a type of service (See paragraph [0070] of Applicants' published application). The quality of service parameters define the characteristics of the data

stream, for example, the type of stream that the subscriber subscribes to over the network, e.g., in terms of throughput, traffic type, priority, etc. (See paragraph [0019] of Applicants' published application).

Applicants' recited method further includes determining an overall, i.e., global, priority level (NPG) for processing the data stream based on a value of the at least one first quality of service parameter and a value of the at least one second quality of service parameter (see paragraph [0107] of Applicants' published application). The value of the overall priority level alone indicates a priority for accessing network resources to execute the service by the subscriber (See paragraph [0108] of Applicants' published application). Applicants' disclosed embodiments still further include determining at least one quality of service process to be applied to the data stream based on the overall priority level. The quality of service process is a process that differentiates and manages access to network resources (See paragraphs [0072], [0109] and [0114] of Applicants' published application).

Thus, Applicants' recited method enables a mobile communications network operator to give priority in the processing of data streams based on an overall, i.e., global, priority level that is based on both the service and the subscriber. In contrast, conventional quality of service management processes quality of service parameters in a linear fashion, i.e., one after another. That is, conventional quality of service management is performed either according to the service, if the quality of service parameters taken into account at the level of each node of the network are mainly linked to the service, or according to the subscriber, if the quality of service parameters taken into account at the level of each node of the network are mainly linked to the subscriber (See paragraph [0067] of Applicants' published application). This conventional quality of service management does not allow for favoring resource access to real time

applications, while maintaining non-real time application resources for priority subscribers (See paragraph [0068]). The fact that Applicants' prioritization takes into account both the subscriber and the type of service enables the operator to give priority to certain subscriber categories with respect to other subscribers while offering services that have different requirements in terms of throughput and delay, and enables the operator to establish several priority levels for processing different data streams on the network in case of a network overload (See paragraphs [0101] and [0108] of Applicants' published application).

Further, the at least one predefined QoS process, which is based on the overall priority levels, is used by each of the network nodes (BSS, SGSN, GGSN) to differentiate and manage the access to resources in case of a network overload (See paragraph [0109] of Applicants' published application). In other words, the network operator is able to apply a different QoS process to a corresponding data stream for each user request according to its associated overall priority level to differentiate and manage access to network resources amongst service subscribers.

Consequently, the overall, i.e., global, priority level is used for enabling a fair distribution of available network resources among the various data streams, wherein each data stream corresponds to the execution of a service request. In that sense, each QoS process is a process for differentiating and managing access to network resources, and the overall or global priority level is used for distributing the available network resources among the various data streams based on the on-going user requests. Such predefined QoS processes include acceptance control, pre-emption, and differentiated resource allocation.

Arguments

Independent claim 1 has been amended to recite a method that includes, *inter alia*, "determining a set of quality of service parameters including at least one first quality of service parameter corresponding to a subscriber priority and at least one second quality of service parameter related to a type of service, wherein the set of quality of service parameters define characteristics of the data stream over the network" and "determining at least one quality of service process to be applied to the data stream based on the overall priority level, said quality of service process differentiating and managing access to network resources". Ho, Immonen and Jouppi, whether taken alone or in combination fail to disclose, teach or suggest the above limitations. The amendments to claim 1 are made only to clarify the quality of service parameters and do not require further search and/or consideration. Support for the claim amendments can be found in paragraphs [0019], [0109] and [0114] of Applicants' published application.

Ho fails to teach or suggest (1) a quality of service parameter corresponding to a subscriber priority or (2) a global priority level determined based on a value of at least one quality of service parameter related to a type of service and on a value of at least one quality of service parameter corresponding to a subscriber priority. Ho describes a method for managing quality of service in a WLAN network and improving the use of bandwidth. In particular, Ho explains that QoS parameter sets for virtual streams (VS) are defined by parameters such as acknowledgment policy, flow type (continuous or discontinuous), priority level, privacy information, delay bound, jitter bound, minimum data rate, etc (See col. 11, lines 17-30 of Ho). Ho implements admission control over a QoS-driven WLAN that does macro bandwidth management for QoS traffic transport over the MAC sublayer on a session-by-session basis (See col. 11, lines 31-34 of Ho).

Fig. 4 of Ho shows a flow diagram illustrating the admission control technique implemented in Ho. The admission control technique of Ho first identifies the type of traffic flow associated with a new session. That is, Ho identifies whether the traffic flow is a continuous flow that requires a real time service or a discontinuous flow having a lower priority (See col. 11, lines 46-49 and col. 12, lines 24-35 of Ho). This priority level in Ho, i.e., the requirement of a real time service or a lower priority service, is related to the service, and not to the subscriber (See col. 8, lines 46-47 and col. 11, lines 41-48 of Ho). That is, the priority level in Ho corresponds to the type of flow for the service. Thus, contrary to the Examiner's assertion at page 2 of the Office Action, the bandwidth services at step 408 of Ho are not "at least one first quality of service parameter corresponding to a subscriber priority", as expressly recited by Applicants' claim 1.

After identifying the type of traffic flow associated with the new session, Ho then determines if the bandwidth required for the new session is available (See col. 11, line 57 through col. 12, line 8 and col. 12, lines 24-60 of Ho). This bandwidth determination in Ho differs as a function of the flow type, i.e., the service. That is, the request for the bandwidth for the new session is granted or denied depending on the bandwidth required for the requested flow type, the currently unused bandwidth and/or any bandwidth available for preemption.

Therefore, Ho fails to disclose, teach or suggest (1) a quality of service parameter corresponding to a subscriber priority and (2) an overall, i.e., global, priority level determined based on at least one quality of service parameter related to a type of service and at least one quality of service parameter corresponding to a subscriber priority. On the contrary, Ho analyzes each QoS parameter linearly, i.e., one after another. In particular, Ho analyzes the flow type first and then the bandwidth. As previously noted, Applicants disclosed embodiments are directed to

avoiding such a linear management of the QoS parameters by using a global priority level that takes into account both the subscriber and the type of service to enable the operator to give priority to certain subscriber categories with respect to other subscribers while offering services that have different requirements in terms of throughput and delay and to enable the operator to establish several priority levels for processing different data streams on the network in case of a network overload.

Ho fails to identify or delineate any quality of service parameter corresponding to a subscriber priority, let alone a determining a quality of service process to apply to a data stream that is based on an overall, i.e., global, priority level. Accordingly, Ho fails to disclose, teach or suggest "determining a set of quality of service parameters including at least one first quality of service parameter corresponding to a ***subscriber*** priority and at least one second quality of service parameter related to a type of ***service***, wherein the set of quality of service parameters define characteristics of the data stream over the network" and "determining at least one quality of service process to be applied to the data stream based on the overall priority level, said quality of service process differentiating and managing access to network resources", as expressly recited by Applicants' independent claim 1.

Even assuming, *arguendo*, the propriety of the Examiner's proffered combination of Ho, Immonen and Jouppi (which Applicants do not concede), Immonen and Jouppi fail to cure the deficiencies of Ho discussed above with respect to claim 1. As discussed in the Amendment filed May 4, 2009 and incorporated herein by reference, Immonen fails to disclose, teach or suggest taking into account a single attribute (i.e., an overall priority level (NPG)), that is obtained from at least one first quality of service parameter corresponding to a subscriber priority level and at least one second quality of service parameter related to a type of service. Jouppi is directed to

selecting a quality of service for a data transmission, but likewise fails to disclose teach or suggest an overall priority level that is obtained from a subscriber priority level and a service parameter. Accordingly, independent claim 1 is deemed to be patentably distinct over the cited art for at least the foregoing reasons. Claims 3-10 and 12-17, which depend from claim 1, are deemed to be patentably distinct over the cited art for at least the same reasons discussed above with respect to claim 1, as well as on their own merits.

In view of the foregoing, Applicants request that the rejections under 35 USC § 102(e) and 35 USC § 103(a) be withdrawn.

CONCLUSION

This application is now believed to be in condition for allowance, and early notice to that effect is solicited.

Should the Examiner have any comments, questions, suggestions, or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
COHEN PONTANI LIEBERMAN & PAVANE LLP

By /Alfred W. Froebrich/
Alfred W. Froebrich
Reg. No. 38,887
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

Dated: November 18, 2009